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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,756	09/30/2004	Kazuyasu Fujiwara	042751	8145

38834 7590 10/03/2006

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EXAMINER	
WILLS, MONIQUE M	
ART UNIT	**PAPER NUMBER**
1745	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/509,756	FUJIWARA ET AL.	
	Examiner	Art Unit	
	Monique M. Wills	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/04, 6/06, 12/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statements filed September 30, 2004, December 28, 2004 & June 30, 2006 has/have been received and complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. Accordingly, the information disclosure statement(s) is/are being considered by the examiner, and an initial copied is attached herewith.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-4 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims recite derivatives of various materials but neither the claims nor specification

clearly define the derivatives for each material. Thus the specification is not held to reasonably enable all derivatives for each material listed in the claims.

2. Claims 1-6 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for particular disclosed derivative for each material claimed, does not reasonably provide enablement for all derivatives of such materials. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. It appears that the specification does not define the term derivatives as recited in the claim but only shows particular materials without clearly defining what each derivative encompasses. Thus the specification is only enabling for those materials clearly specified for each material derivative and the claimed invention only appears to have support for those derivatives defined by the disclosure. Applicant is advised to amend the claims to define the derivatives commensurate with the scope of the specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite derivatives of various materials but the claims fail clearly defines what each derivative encompasses. Thus the exact scope of the derivatives for

each material listed in the claims is vague and indefinite. For example the paragraph bridging pages 8-10 admits that the derivatives are not specified. Thus the claimed invention is unclear since the entire scope of each claimed derivative is unspecified by the original disclosure.

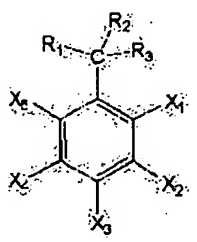
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-298909 (JP '909) in view of JP 2002-050398 (JP '398).

In re claims 1 & 4, JP '909 discloses a non-aqueous electrolyte secondary cell comprising a positive electrode intercalating and deintercalating lithium ions (par. 22), a negative electrode intercalating and deintercalating lithium ions (par. 21), and a non-aqueous electrolyte having a non-aqueous solvent and an electrolyte salt (par. 23), wherein, the non-aqueous electrolyte includes tert-alkylbenzene derivatives (abstract). The ter-alkylbenzene derivative is expressed by the general formula:



A total mass of the non-aqueous solvent and the electrolyte salt is taken as 100, an amount of the tert-alkylbenzene derivative is 0.1 to 20 parts by mass per 100 total mass of the non-aqueous solvent and the electrolyte salt; (abstract and examples as applied to Example 1). With respect to claim 2, the non-aqueous solvent further includes an unsaturated carbonate derivative (par. 13)

However, Jp'909 does not teach of the electrolyte further including a cycloalkylbenzene.

JP '398 discloses adding phenylcyclohexane to a lithium battery nonaqueous electrolyte (abstract).

The motivation for adding phenylcyclohexane to the nonaqueous electrolyte is that it improves the safety and reliability of the battery and prevents overcharging of the cell.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '909 by adding phenylcyclohexane to the nonaqueous electrolyte as taught by JP '398 since it would have improved the safety and reliability of the battery and prevented overcharging of the cell.

With respect to the cycloalkylbenzene derivative solvent ratio of 0.5 to 5 parts by mass of the non-aqueous solvent (claims 3 & 4), it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the instant solvent ratios, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 17 F.2d 272, 205 USPQ (CCPA 1980). The skilled artisan recognizes that the about of cycloalkylbenzene directly effects overcharging of the cell.

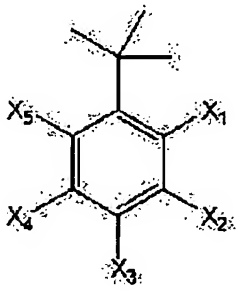
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-110229 (JP '229) in view of JP 2002-050398 (JP '398).

In re claims 1 & 4, JP '229 discloses a non-aqueous electrolyte secondary cell comprising a positive electrode intercalating and deintercalating lithium ions (par. 19), a negative electrode intercalating and deintercalating lithium ions (par. 20), and a non-aqueous electrolyte having a non-aqueous solvent and an electrolyte salt (par. 22), wherein, the non-aqueous electrolyte includes tert-butylbenzene derivatives (abstract). The ter- butylbenzene derivative is expressed by the general formula:



A total mass of the non-aqueous solvent and the electrolyte salt is taken as 100, an amount of the tert- butylbenzene derivative is 0.1 to 20 parts by mass per 100 total mass of the non-aqueous solvent and the electrolyte salt; (par. 13). With respect to claim 2, the non-aqueous solvent further includes an unsaturated carbonate derivative (par. 15)

However, Jp'229 does not teach of the electrolyte further including a cycloalkylbenzene.

JP '398 discloses adding phenylcyclohexane to a lithium battery nonaqueous electrolyte (abstract).

The motivation for adding phenylcyclohexane to the nonaqueous electrolyte is that it improves the safety and reliability of the battery and prevents overcharging of the cell.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '229 by adding phenylcyclohexane to the nonaqueous electrolyte as taught by JP '398 since it would have improved the safety and reliability of the battery and prevented overcharging of the cell.

With respect to the cycloalkylbenzene derivative solvent ratio of 0.5 to 5 parts by mass of the non-aqueous solvent (claims 3 & 4), it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the instant solvent ratios, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 17 F.2d 272, 205 USPQ (CCPA 1980). The skilled artisan recognizes that the about of cycloalkylbenzene directly effects overcharging of the cell.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

9/25/06

PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER